

BEFORE THE
Federal Communications Commission

WASHINGTON, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of

The Development of Operational,
Technical, and Spectrum
Requirements for Meeting
Federal, State and Local Public
Safety Agency Communication
Requirements Through the
Year 2010

WT Docket No. 96-86

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To: The Commission

COMMENTS
OF THE
INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION
AND THE
INTERNATIONAL ASSOCIATION OF FIRE CHIEFS, INC.

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Dated: October 21, 1996

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SUMMARY

IMSA and IAFC applaud the Commission's efforts to establish a plan to evaluate public safety spectrum needs and implement rules to meet these needs. IAFC/IMSA generally support PSWAC's findings.

IMSA/IAFC's comments emphasize: local control of public safety spectrum through a neutral third-party administrator; flexible regulations that can meet the needs of rural as well as urban public safety organizations, and of voluntary as well as funded public safety organizations; the need for interoperable communications in the case of day-to-day, mutual aid and task force operations; the increasing need for more spectrum allocations as new services are introduced; the need for more spectrum, but not at the expense of relocating current licensees; and the need for a smooth transition to a new public safety communications environment through incentives. As the FCC implements rules in this proceeding, IAFC/IMSA urge the Commission not to dictate a particular technology or equipment but to permit the market to select its preferred technology or equipment.

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To: The Commission

COMMENTS
OF
THE INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION
AND THE
INTERNATIONAL ASSOCIATION OF FIRE CHIEFS, INC.

The International Municipal Signal Association ("IMSA") and the International Association of Fire Chiefs, Inc. ("IAFC"), by their attorneys, pursuant to Section 1.415 of the Rules and Regulations of the Federal Communications Commission ("Commission" or "FCC") respectfully submit these Comments in response to the Notice of Proposed Rule Making ("Notice")^{1/} adopted by the Commission in the above-styled proceeding.

1 61 Fed. Reg. 18538 (April 26, 1996).

I. INTRODUCTION

1. IAFC is a voluntary, professional membership society. Its membership, comprised of approximately 10,000 senior Fire Service officials, is dedicated to the protection of life and property throughout the United States and abroad. IAFC is the major national professional association representing the interests of senior management in the Fire Service. The Fire Service is the largest provider of emergency response medical service in the United States.

2. IMSA is a non-profit organization dedicated to the development and use of electrical signaling and communications systems in the furtherance of public safety. IMSA members include representatives of federal, state, county, city, township and borough governmental bodies, and representatives of governmental bodies from foreign nations. Organized in 1896, IMSA is the oldest organization in the world dedicated to activities pertaining to electrical engineering, including the Public Safety use of radio technology.

3. IAFC and IMSA are recognized as the frequency coordinating committee for the Fire Radio Service and the Emergency Medical Radio Service ("EMRS") and, in conjunction with National Association of Business and Educational Radio, Inc. (NABER), constitute the recognized coordinating committee for the Special Emergency Radio Service ("SERS").

II. BACKGROUND

4. Members of IAFC and IMSA participated in all Subcommittees of the Public Safety Wireless Advisory Committee ("PSWAC"). In addition, Chief Michael Freeman of the Los Angeles County Fire Department is a member of the Steering Committee; and Alfred Mello of IMSA, Manager of the Fire/EMS frequency coordination program, is Chairman of the Technology Subcommittee. Being heavily involved in PSWAC's decision making process, IMSA/IAFC are familiar with the options and issues facing the FCC as it develops regulations and policy to meet the present and future wireless communications requirements of the public safety community. IAFC/IMSA generally agree with PSWAC's findings and support PSWAC's Final Report.

III. COMMENTS

A. **The FCC Should Not Allocate Spectrum for Public Safety Purposes Through Block Grants to the States or Through Regional Block Grants.**

5. The Commission cites to its conduct of over 40 proceedings in the past 15 years intended to "promote the efficiency, effectiveness, and enhancement of public safety communications" as evidencing its commitment to meeting the communications' requirements of the public safety community.

Notice at 17.^{2/} In paragraph nineteen of the Notice, the Commission seeks comment on allocating spectrum for public safety purposes. Specifically, the Commission inquires whether implementation of the public safety allocations in the 800 MHZ band through the National Plan process or through Senator Larry Pressler's concept of block allocations to states have met or will meet the spectrum needs of the public safety community.

6. IMSA/IAFC's experience has been that regional block allocations used in implementing the National Plan are slow in meeting the users' spectrum needs. In particular, block allocations have proven to be "politicized." Public safety, notably in the Fire and Emergency Medical Services, consists of a variety of size and structure of entities, e.g., both metropolitan and rural organizations, and paid, volunteer and mixed paid/volunteer agencies. All coexist and serve their communities, side-by-side and in cooperation with one another. However, in drawing from regional block allocations, and particularly those available to the public safety services generally, the larger, better-funded public safety organizations, being able to plan, commit to future systems, and participate in the regional organization's

2 But see letter of September 12, 1996 from Senator Judd Gregg to the Honorable Reed E. Hundt questioning whether the Commission's policies concerning public safety are being implemented by the FCC's Wireless Telecommunications Bureau. A copy of that letter is attached as Appendix A.

meetings, thus are able first to claim spectrum for their organizations. The smaller, less well-funded public safety organizations, particularly including volunteer agencies, including those in the Fire Service which is comprised of eighty percent volunteer organizations, have not had the means to participate in the block allocation process and have not been able to obtain adequate access to the block frequency assignments.

7. Additionally, the Commission's intent in assigning new spectrum under the National Plan process was for the regional organizations charged with administering the National Plan to return channels for reassignment. However, as agencies migrate to new 800 MHz systems, the planning organizations do not have the will or the capacity to pursue or enforce spectrum return policies; and they have not fulfilled expectations in requiring the return of channels for reassignment. This is inherent in user controlled programs where the larger agencies which dominate the process may not feel compelled to enforce anti-warehousing policies. While well intended by the Commission, these programs should not be expanded.

8. Similarly, IAFC/IMSA believe assigning frequency blocks to the states would not be successful. Frequencies do not stop at state borders, and state block allocations ignore the need for public safety agencies to coordinate spectrum use with other public safety organizations beyond

state borders. The Commission need look no farther than the D.C./Maryland/Virginia borders to appreciate the cooperative relationships and the difficulties of a state frequency block program. Numerous other metropolitan areas straddle state borders as well. Block spectrum allocations by state present another opportunity for public safety spectrum allocations to be politicized. Because the major public safety agencies within each state have the financial resources to participate in the allocation process, they are likely to gain control of the public safety spectrum block. If the FCC assigns spectrum for public safety use through state block allocations but does not impose regulations on the states in their assignment of public safety spectrum, spectrum allocations by state, like allocation to the regional organizations implementing the National Plan, are likely to be unevenly implemented.

9. IMSA/IAFC support local control of spectrum coordination for public safety purposes through the current public safety frequency coordination process. In order to assure a fair and balanced approach to implementing spectrum allocations, a neutral third-party organization is needed to fulfill the role of spectrum "allocator" or coordinator. The currently recognized public safety frequency coordinators are neutral third-parties and should continue to fulfill their assigned functions. If any changes are needed, the coordinators should be permitted greater

flexibility to implement public safety spectrum allocations on an efficient basis to serve the communities generally.

B. Interoperability Issues

10. PSWAC's proposed "Public Safety" definitions should be adopted by the Commission. In the Notice, the Commission concludes that, in order to "encompass the broadest array of the responsibilities and functions performed by public safety agencies," it should modify its definition of "public safety" by adopting PSWAC's proposed definitions. Notice at 25. IMSA/IAFC agree with the public safety definitions submitted by PSWAC and urge the Commission to adopt the definitions proposed in paragraph 24 of the Notice.

11. Interoperability is required by many agencies to improve their capabilities to achieve their public safety responsibilities. PSWAC has appropriately described to the Commission the components of interoperable systems and the use and options of interoperable systems. The interoperability definitions proposed by the Commission are the same as those adopted by PSWAC.

12. The Commission seeks comment as to whether interoperability, as defined in the Notice, would "facilitate the expeditious development of interoperability for public safety agencies." Notice at 27. Although IAFC/IMSA agree that interoperability enhances the capacity

of public safety agencies to respond to incidents and support the interoperability definitions proposed by PSWAC in the FCC's Notice, IMSA/IAFC are not optimistic that these definitions will facilitate the development of interoperability, especially in the case of multi-jurisdictional interoperability. In particular, interoperability between state and federal public safety agencies will be difficult to achieve because, traditionally, federal agencies are unwilling to share radio operations with local and state public safety agencies.

13. The need for interoperability in day-to-day, mutual aid and task force operation is very real. The organizations represented by IAFC/IMSA rely heavily on interoperability in order to carry out their day-to-day operations. For instance, the Fire Services and EMS are the first responders to daily incidents such as car accidents, fires or hazardous material spills. Fire Services and EMS must be able to communicate with other public safety agencies, such as the police and highway departments, in responding to such incidents.

14. EMS and Fire Services are best able to respond to an incident requiring inter-agency cooperation when there is a direct RF link between units. A direct RF link minimizes time delays involved when a message must be relayed through a dispatcher to another unit responding to the same incident. Otherwise, two dispatchers may be needed to relay

communications between units of different agencies, both responding to the same incident.

15. Interoperability also is critical in mutual aid operations. IAFC/IMSA agree that in cases of "major fires, plane crashes, chemical spills, and other disasters" mutual aid operations present one of the more challenging and critical needs for interoperability. These disaster situations are characterized by their large-scale and the devastation to life and property they cause. Response to these situations also must be on a large-scale and swift. As PSWAC noted in its Final Draft Report, it is especially in such large-scale disaster situations that "effective coordination of multiple agencies (fire, police, local government, utilities) and jurisdictions is largely dependent on interoperable communications systems." However, it is exactly in these situations where interagency communication is the most difficult.

16. Because mutual aid situations often are critical and catastrophic in nature, communications must be immediate, ubiquitous and reliable. The availability of such efficient communications systems potentially determines whether human life and property is saved. Mutual aid plans often are used by public safety organizations in adjoining jurisdictions or in different services within the same jurisdiction to respond to day-to-day incidents. On a smaller scale, day-to-day mutual aid situations share the

same characteristics and communications requirements faced in a catastrophic mutual aid situation.

17. Available mutual aid frequencies generally are saturated in disaster situations. Congestion on current mutual aid channels delays rescue efforts and results in further loss of life and property. Many Fire Services and EMS units utilize cellular phones to achieve interoperability in a mutual aid situation. However, cellular phones cannot fulfill the communications requirements of a mutual aid system because they do not provide a source of immediate, ubiquitous and reliable communications.

18. The most acute problem with use of cellular phones during major disasters and/or emergencies is system access. Each cell site is capable of supporting a limited number of simultaneous conversations, and the site channel capacity in rural areas generally is small. In a disaster response situation, all available communications links are likely to be occupied by other public safety users also responding to the situation and by non-public safety users such as the press, or by citizens calling home. The press use of cellular service presents a particular problem in that reporters often capture a line and camp-on for hours to maintain contact with their newsrooms. Another problem with cellular telephone service is the "one-to-one" nature of the service. Thus, a dispatcher whose field units are using

cellular service must place separate calls to each unit he/she wishes to communicate with concerning a major disaster. Another shortcoming of cellular telephone service and other commercial wireless services is lack of a priority access system for public safety agencies. Lastly, cellular telephone service is not ubiquitous and often does not provide the coverage needed by public safety agencies, particularly in rural areas where cellular companies have not found it commercially necessary to build out their systems.

19. Task force operations require various agencies to coordinate responsibilities, and therefore also require interoperability. In implementing any rules to facilitate interoperability in the case of day-to-day, mutual-aid or task force operations, the Commission should not limit the means by which interoperability is achieved. Public safety organizations, on a local level, have been successful in implementing use of mutual aid channels for day-to-day interoperability as well as for interoperability in mutual aid incidents of a multi-jurisdictional or regional scale. The Commission should implement rules that permit maximum flexibility to public safety organizations in coordinating mutual aid communications and that would continue to permit public safety organizations to coordinate interoperability among public safety and public service organizations.

20. In paragraph 32 of the Notice, the Commission lists several examples of initial interoperability efforts of various communities and requests comments on the feasibility and effectiveness of these efforts. These interoperability efforts reflect local planning and may not be suitable for all states or regions. Every state, region and public safety organization has particular needs for functions and services, different obstacles, different demographic and geographic characteristics and different resources available to them. Therefore, the Commission cannot impose a master interoperability plan for all public safety organizations to follow.

21. Various options are available in order to facilitate interoperability between organizations performing public safety functions on a local, regional and national basis. IMSA/IAFC agree that relocating all public safety organizations to a new band is impractical. Designating new universal mutual aid channels would ameliorate the situation; however, this is a viable solution provided that spectrum is available and that it would not require current users to vacate their frequencies. Creation of universal mutual aid channels also would entail public safety agencies incurring the cost of buying — and outfitting with — new equipment. Furthermore, even if available spectrum could be found for a new universal mutual aid channel, the band selected may not be suitable for propagation in different

terrains. Installation of cross-band repeaters is not an appealing solution either, since it too would require significant investment in new equipment.

22. The Commission requests comments as to whether, if it designates universal mutual aid channels, the new channels should be subject to a system of priorities. Establishing a system of mutual aid channel priorities is premature. Universal mutual aid channels have not been designated; plans for operating universal mutual aid channels have not been established, and participants for universal mutual aid channels have not been selected. Establishing rules for mutual aid channel priority before designating new mutual aid channels would be "putting the cart before the horse." Administration of a priority system poses another problem. If the Commission designates new mutual aid channels and decides to implement a priority system, the Commission must select a priority system administrator. The Commission also must decide how such a priority system should be operated. IMSA/IAFC believe that if a priority system is established for universal mutual aid channels, it should be administered by a neutral third party. This is not the time for the Commission to select universal mutual aid channel administrators or to establish rules implementing a universal mutual aid priority system. IAFC/IMSA urge the Commission to delay the establishment of a mutual aid priority system until the Commission allocates

more universal mutual aid channels. IMSA/IAFC are not prepared to address the issue of how an administrator should make the decision of who has priority in cases where two first responders are attempting to use the system simultaneously for separate incidents.

23. The Commission believes that one solution for interoperability would be to require that equipment for public safety use have a common communications mode and frequency band. If the Commission does create new universal mutual aid channels, IAFC/IMSA support the idea that open architecture technology should be used for equipment operating on these universal mutual aid channels. Proprietary technology which favors one manufacturer quiets competition and slows technological improvements. The FCC must allow the technology to evolve and permit the market to select the technology it prefers.

24. More specifically, the Commission seeks comment on whether it should require all radios which are type accepted or sold for use on public safety frequencies to be capable of operating on the designated mutual aid channels. Notice at 42. The Commission concludes that use of multi-band radios could satisfy such a type acceptance requirement. IMSA/IAFC do not believe that the Commission should require all public safety equipment to be able to receive the new universal mutual aid channels. Apart from the expense incurred in buying multi-band radios needed to

receive an additional channel, the size of multi-band radios limits the efficiency of this option of obtaining interoperability. Multi-band radios often are bulky, making them inconvenient for portable use. EMS and Fire Services heavily rely on portable hand-held radios for communications. Bulky multi-band radios would encumber operations for Fire and EMS personnel.

C. Operational Issues

25. In order for the Commission to gauge the current and future spectrum needs of the public safety community and to plan and prioritize spectrum allocations, the Commission inquires as to the types of services that public safety agencies will need to accomplish their missions and the technical specifications required for the implementation of such services. Notice at 46. As highlighted in PSWAC's Final Draft Report, different public safety users have different mission-specific requirements; and as advances in technology provide new capabilities and applications, public safety agencies will require utilization of these advances to better carry out their public safety mission. IAFC/IMSA members envision the need to implement, to some degree, all of the service features listed in paragraph 48 of the Commission's Notice.

26. IMSA/IAFC members are heavy users of dispatch services, and the communications services most beneficial to

IAFC/IMSA members would be enhanced dispatch followed by transaction processing, decision support, linking/roaming, facsimile, snapshot, and full motion video.

27. The Commission seeks comment on the performance requirements for the systems and equipment used by public safety agencies for their radio communications. Notice at 51. Specifically, the Commission requests commenters to discuss "whether there are particular system requirements so critical that the Commission should require them for all public safety equipment." Notice at 51. IMSA/IAFC believe that the Commission should not dictate performance standards. As noted previously in these comments, IAFC/IMSA urge the Commission to permit technology to develop and allow the market to decide the preferred technology.

28. In the context of public safety agencies meeting their operational service requirements, the Commission seeks comment on whether "public safety licensees, as a general matter, should be required to utilize joint networks [both commercial and non-commercial] for their public safety communications." Notice at 55. The decision whether or not to participate in a joint network, commercial or non-commercial, traditionally has been made by the individual public safety agency, depending on its resources and needs. IMSA/IAFC believe the Commission should continue to permit individual public safety agencies to decide, on a local level, whether or not to participate in a joint network.

29. For public safety communications, dependence on commercial joint networks presents a host of impediments to operating a reliable network. A user of a commercial network never knows when all lines will be busy and thus preclude the ability to communicate via the network. This problem cannot be resolved because there is no prioritization system for commercial wireless systems. This problem was addressed in a Request for Rulemaking filed by the National Communications System and incorporated in this rulemaking by the Commission. Comments and Reply Comments were filed separately on this issue, and IAFC/IMSA support the National Communications System's efforts to establish a system of cellular priority.

30. Public safety organizations that rely on commercial joint networks also run the risk that they will not be able to respond in a disaster situation. In the case of a major incident, such as a major natural disaster or a national defense situation, where communications links may be out of service, commercial systems are not assured priority in service restoration.^{3/} The inability of a public safety organization to coordinate rescue efforts because it is dependent on a commercial service well could result in a loss of life and property.

3 See 47 C.F.R. 64.401 and Appendix to Part 64.

31. IMSA/IAFC members and members of other public safety agencies do utilize commercial services to the extent possible. The Commission should not obligate any public safety organization to rely on a commercial network. Individual agencies should continue to decide to what extent commercial providers can fulfill their needs.

D. Technology Issues

32. The Commission requests comments addressing the impact of new technologies on the provision of new communications services and the demand for spectrum. Notice at 57. IAFC/IMSA agree with PSWAC that while new technologies will permit more efficient use of spectrum, more spectrum will be required by public safety agencies in order to implement new broadband service features. New services, like video, will increase the demand on spectrum.

33. In paragraph 63 of the Notice, the Commission requests comments on what impact the use of the TDMA, CDMA, FDMA and ACSSB technologies will have on the future spectrum and capacity needs of public safety agencies. It is premature to comment on the effects of the above referenced technologies when it is unknown how many public safety users will be able to convert to these technologies.

34. In addressing the issue of regulatory approaches that could be used in order to encourage public safety agencies to implement new technologies, the Commission

requests comments on whether or not it should require use of a particular technology. Notice at 66. IMSA/IAFC agree with the Commission's general principle that "allowing maximum flexibility in licensee selection of equipment would be the best regulatory approach." Notice at 66. The Commission should not dictate a technology; rather, the market should be allowed to select the most efficient technology for particular applications.

35. The Commission notes that regulating a technology may be necessary in order to promote an important regulatory goal such as interoperability. As noted previously, IAFC/IMSA do not believe the Commission should impose regulations on the public safety community, including requiring the use of a particular technology by certain time deadlines, in order to further interoperability. The Commission should encourage interoperability; but due to the varied communications needs of public safety organizations, the Commission should permit planning and participation on a local level.

36. The Commission seeks comment as to other means for achieving interoperability without mandating the technology or equipment to be used. Notice at 67. IMSA/IAFC believe the Commission can craft rules that permit operational flexibility by creating an incentive system which will make it rewarding for the public safety agencies to implement systems with a specific technology, equipment

or that conform with other technological requirements. For instance, the Commission could offer public safety users who agree to conform to certain equipment or technological requirements exclusive use of their assigned channel.

37. Commercial incentives, such as auctioning of spectrum, are clearly not appropriate for public safety users.^{4/}

E. Spectrum Allocation Issues

38. Public Safety agencies require increased spectrum allocations. The Commission acknowledges the public safety organizations' need for more spectrum in the Notice. Congress too, by issuing a mandate to the FCC in the 1993 Omnibus Budget Reconciliation Act to study the spectrum needs of the Public Safety community, recognizes the public safety community's need for more spectrum allocations.

39. The Commission discusses various regulatory approaches in order to address the problem of congested

4 Public safety entities rely on public funding to support their communications needs. Thus, public safety entities would not be able to compete fairly in an auction market. Public safety does not have a commercial subscriber base which can be used to support bids for spectrum. The need for spectrum is based entirely on the geographic areas served by the specific public safety entity — its demographics. Agencies with the greatest needs for spectrum may have the least ability to generate funds. Spectrum fees are also unsuited for public safety agencies. Final Report of the Transition Subcommittee of PSWAC, July 5, 1996.

spectrum and fragmented bands facing public safety agencies. Notice at 72. IAFC/IMSA believe the spectrum shortage problem facing their constituents is best resolved by additional spectrum allocations. IMSA/IAFC recognize the difficulty of meeting public safety needs, particularly considering that other services also have legitimate spectrum needs; however, the Communications Act requires the Commission to balance the competing needs, which balancing must recognize that a high priority must be accorded to public safety. Pending implementation of new public safety allocations, the Commission must maintain flexibility in granting waivers to use out-of-service channels to meet public safety needs. See Appendix A.

F. Transition Issues

40. The Commission commences its discussion of the transition to a new public safety communications environment by setting out the three means by which the FCC believes that the communications needs of public safety organizations can be satisfied. Notice at 87. These means are "(1) greater use of commercial services by public safety entities; (2) more efficient use of existing spectrum; and (3) provision of additional spectrum for public safety uses." Notice at 87.

41. In its Notice, the Commission seeks comments on developing a transition plan and inquires whether transition to a new communications environment would be different for public safety agencies in rural and urban areas. Notice at 87. IAFC/IMSA believe that any transition to new spectrum allocations will be different in rural and urban areas, as well as between paid and volunteer public safety agencies. The Commission must consider these differences in developing a transition plan from today's environment to public safety communications employing advanced technologies. Over 80% of the operating fire departments are volunteer and have limited financial resources to implement new spectrum allocations and install new equipment. The Commission should facilitate the transition for volunteer public safety organizations and for organizations in rural areas.

42. In transitioning to new public safety communications systems, the Commission concludes that public safety agencies will need to increase their use of commercial services. Notice at 87. The Commission seeks comment on its conclusion and requests comments on the commercial services that could be reliably utilized by public safety organizations. As previously stated, IMSA/IAFC oppose any Commission decisions which would force public safety agencies to rely on commercial providers to carry out their public safety missions.